



**ENGINEERING CHECKS**

**AS 39 CLASS**

## AUXILIARIES (AX) PRE-UNDERWAY PHASE

5811	ANCHOR WINDLASS (Inport Drop Test)	
Component/Sub-Component	Proposed Procedure	Accepted Procedure
Inspect Tech Manual Support		
Inspect PMS Support		
Inspect posted operating/safety instructions and lubrication data		
Inspect fluid samples		
Inspect for proper HPU fluid levels		
Inspect for proper lubrication of mechanical components		
Inspect Gauge Calibration		
Inspect relief valve data is properly posted		
Inspect all flex hoses are properly tested and labeled		
Inspect mechanical brake operator linkages		
Inspect stroke control linkages		
Inspect flange shields		
Inspect for adequate nitrogen charge for windlass		
Inspect speed limiter		
Inspect for adequate LP air pressure for chain compressor		
Inspect capstan/wildcat brake assembly – mechanical brake components (worm gear end cap as required).		
Inspect electric brake		
Inspect filter differential indications		
Inspect HPU mechanical seal leakage		
Test Compensating Relief Valve is properly set		
Test - Conduct Inport Anchor Drop test		
- Inspect Servo/Replenishment Pressures during wildcat operation		
- Inspect Chain Compressor operation		
- Inspect Anchor drops from the hawsepipe		
- Test electric brake operation		

- Inspect reduction gear lubrication (gauges/sight flows/dipsticks)		
Test crossover valve operation		
Test wildcat/windlass solenoid switch		
Test Main Relief Valve lifts correctly		

5600 / 5611	STEERING (Inport System Verification)	
Component/Sub-Component	Proposed Procedure	Accepted Procedure
Inspect Tech Manual and EOSS Support		
Inspect PMS Support		
Inspect operating/safety instructions and hydraulic system/electrical wiring diagrams are posted		
Inspect proper fluid levels		
Inspect hydraulic oil fill connections are properly labeled		
Inspect fluid samples		
Inspect Gauge Calibration		
Inspect rudder stock grounding straps		
Inspect filter indicators		
Inspect Servo/Replenishment Pressures are correct		
Inspect all flex hoses are properly tested/labeled		
Inspect flange shields are properly installed		
Test N2 accumulators are properly charged		
Test the trick wheel stops		
Inspect the crush block clearances		
Test the rudder follow up error (1 deg increments at 0 to 5 deg; 5 deg increments at 5 to 25 deg)		
Test ABT operation		
Test compensator relief valve settings		
Test main relief valve settings		
Test (inport) rudder swing checks		
Test (inport) blocking valve		
Test auxiliary emergency steering pump		
Test manual emergency steering system		
Inspect ram for scoring		
Test steering casualty alarm		
Test pump remote operation and transfer of controls to pilot house		
Test for static rudder split (pilot house in control)		
Test for indicator error (pilot house in control)		

<b>A-002/105-11</b>	<b>EMERGENCY/SHIP'S SERVICE DIESEL GENERATORS</b>	
Component/Sub-Component	Proposed Procedure	Accepted Procedure
Inspect Engine Sump Level		
Inspect Turbocharger Sump Level		
Inspect Start Air Lubricator Oil Level		
Inspect Governor Oil Level		
Inspect Lube Oil Sample		
Inspect J/W Expansion Tank Level		
Inspect "Do not open access..." and Expansion Tank warning "Poison..." are posted		
Inspect/test fuel valve trip		
Inspect Relief Valves		
Inspect Flange Shielding		
Inspect For Exhaust Leaks		
Inspect Filters, Strainers		
Inspect Governor and Fuel Linkage for Binding		
Inspect J/W Standby Pump		
Test Blow In Damper		
Test pre-lube system operation		
Test Jacket Water High Temp Alarm		
Test Lube Oil Filter High DP Alarm		
Test low lube oil pressure alarm		
Test Remote Shut Down		
Test Local Shut Down		
Test Barring Device Interlock		
Test Engine Blow Down		
Test Local Pneumatic start		
Test dead bus auto start		
Test Overspeed Trip		
Test 80% load for 15 minutes		
Inspect for fuel/lube oil leaks		
Inspect pyrometer operation		
Inspect manometer		
Inspect sea water cooling pump		
Test high water/generator bearing temp alarm		

<b>5512 / 5513 / 5515</b>	<b>LOW and MEDIUM PRESSURE AIR SYSTEM</b>	
Component/Sub-Component	Proposed Procedure	Accepted Procedure
Inspect Tech Manual and EOSS Support		
Inspect PMS Support		
Inspect Gauge Calibration		
Inspect operating/safety instructions are posted		
Inspect compressor oil level and oil samples		
Test compressor pressures and temperatures		
Test compressor capacity control system		
Inspect compressor belt condition		
Test compressor auto control and safety switches		
a. Operational control switches (115/120/125)		
b. Low oil pressure		
c. High discharge pressure		
d. High air and water temp		
Inspect all relief valve testing is within periodicity		
Inspect location of intake/vent supply		
Inspect receiver flask certification		
Test priority valve operation		
Inspect sea water cooling system		
Inspect 50/50 mixture of ethylene glycol		
Test type I and type II dehydrator operation		
a. Gauge calibration		
b. Tower operation		
c. Purge air pressure		
d. Automatic drain operation		
e. Dew point		
f. Inspect PMS and Tech Manual support		

5511 / 5515	HIGH PRESSURE AIR SYSTEM	
Component/Sub-Component	Proposed Procedure	Accepted Procedure
Inspect Tech Manual and EOSS Support		
Inspect PMS Support		
Inspect Gauge Calibration		
Inspect operating/safety instructions are posted		
Inspect compressor oil level and oil samples		
Test compressor auto control and safety switches		
a. Start / Stop switch		
b. Low oil pressure switch		
c. Jacket water temp switch		
d. Compressor temp/pressure monitor operation		
Inspect compressor pressures and temperatures		
Inspect compressor drive belt condition		
Inspect condensate monitoring/drain system		
Inspect all flex hoses are properly tested/labeled		
Inspect all relief valve testing is within periodicity		
Inspect HP air flask certification		
Inspect sea water cooling system		
Inspect air intake/ventilation supply location		
Inspect all HP/LP air reducing stations		
Inspect fresh water pump belts		
Inspect capacity		
Inspect oil wipers		
Inspect pressure regulator valve		
Inspect 50/50 mixture of ethylene glycol		
Inspect seals for oil leaks		

5210	FIRE PUMPS (ELECTRIC and STEAM)	
Component/Sub-Component	Proposed Procedure	Accepted Procedure
Inspect Tech Manual and EOSS Support		
Inspect PMS Support		
Inspect Gauge Calibration		
Inspect Transducer Calibration		
Inspect Coupling Guard		
Inspect relief valves are within periodicity		
Test remote start/stop functions		
Test local start/stop functions		
Inspect pump operation/design discharge pressure, unusual noise, bearing temps, etc.		
Test the over speed trip (STEAM)		
Test the speed limiting governor (STEAM)		
Test the turbine auxiliary lube oil pump low-pressure automatic start switch operation (STEAM)		
Inspect lube oil filter indications and oil level (STEAM)		
Test combination exhaust and relief valve (STEAM)		
Inspect the packing and mechanical seal leakage		
Inspect for ferrous fasteners		
Inspect the resilient mounts		
Inspect condition of expansion joints		
Inspect all flex hoses are properly tested/labeled		
Inspect piping lagging		
Inspect grounding straps		
Test remote operated suction/discharge valves		
Inspect the suction strainer		

<b>5240</b>	<b>SEAWATER SERVICE PUMPS</b>	
Component/Sub-Component	Proposed Procedure	Accepted Procedure
Inspect Tech Manual and EOSS Support		
Inspect PMS Support		
Inspect Gauge Calibration		
Inspect Transducer Calibration		
Inspect Coupling Guard		
Test remote start/stop functions		
Test local start/stop functions		
Inspect pump operation/design discharge pressure, unusual noise, bearing temps, etc.		
Inspect packing and mechanical seal leakage		
Inspect for ferrous fasteners		
Inspect foundation and resilient mounts		
Inspect condition of expansion joints		
Inspect all flex hoses are properly tested/labeled		
Inspect piping lagging		
Inspect grounding straps		
Test remote operated suction/discharge valves		
Inspect the suction strainer		
Test the firemain to seawater reducing station operation, condition and relief valve test periodicity		

<b>5140</b>	<b>AIR CONDITIONING PLANTS</b>	
Component/Sub-Component	Proposed Procedure	Accepted Procedure
Inspect EPA certifications		
Inspect Tech Manual and EOSS Support		
Inspect PMS Support		
Inspect Gauge Calibration		
Inspect operating/safety instructions are posted		
Inspect compressor oil level and oil samples		
Inspect warning at entrance (Freon usage) posted		
Inspect Refrigerant logs		
<b>Test halocarbon monitor operation</b>		
Test capacity control system operation		
Test calibration of safety shutdowns/alarms		
a. HP/LP pressure switches		
b. C/W, S/W flow/press/temp switches		
c. Low refrigerant temp switch		
d. Low oil pressure switch		
Inspect moisture indicators		
Test compressor operation (parameters, suct/disch valves)		
Test for leaks (oil/freon/water)		
Inspect chilled water pump		
a. suction valve		
b. discharge valve		
c. mechanical seal		
Inspect chilled water expansion tank		
a. Proper operating level		
b. Filling pipe air gap		
c. Relief valves and vacuum breakers		
d. Hose disconnects and warning sign		
Test PPU		
Inspect recovery unit (Inventory Item)		
Inspect for available vacuum pump		
Inspect sea water system		
a. Pump operation		
b. Zincs and nylon tube inserts present		
c. Condenser header condition		
d. Seawater Regulating valve		
Inspect motor controller		
Inspect coupling guard		
Inspect resilient mounts		

Inspect flex hoses		
<p align="center"><b>AUXILIARIES (AX)</b> <b>UNDERWAY DEMO PHASE</b></p>		
<b>5811</b>	<b>ANCHOR WINDLASS DROP AND RETRIEVAL DEMONSTRATION</b>	
Component/Sub-Component	Proposed Procedure	Accepted Procedure
Test - Conduct Anchor Drop and Retrieval test		
- Inspect Servo/Replenishment and Main Relief Pressures during wildcat operation		
- Inspect Anchor drops from the hawsepipe		

<b>5600 / 5611</b>	<b>STEERING DEMONSTRATION</b>	
Component/Sub-Component	Proposed Procedure	Accepted Procedure
Inspect proper fluid levels		
Inspect correct Servo/Replenishment pressures		
Test - Demonstrate timed rudder swing checks/blocking valve test Ahead (as per provided procedure)		
Test - Demonstrate timed rudder swing checks/blocking valve test Astern (as per provided procedure)		
Inspect for dynamic rudder split from helm indicator		

<b>5331</b>	<b>WATER HEATERS</b>	
Component/Sub-Component	Proposed Procedure	Accepted Procedure
Inspect Tech Manual and EOSS Support		
Inspect PMS Support		
Inspect list of heaters onboard and spaces hot water services (berthing/laundry/galley)		
Inspect gauge calibration		
Inspect outlet temp at heater (verify operation)		
Inspect relief valve test data		
Inspect relief valve drain piping		
Inspect cold water inlet pipe for check valve		

Test high temp switch setting		
Test high temp switch warning light		
Inspect lagging condition		
Inspect for steam / water leaks		
Inspect Temp Reg Valve for locking device		
Inspect heater foundation		
Test water temp at basin/spigot		

<b>5351</b>	<b>STEAM RISER and COPPER SERVICE STEAM PIPING</b>	
Component/Sub-Component	Proposed Procedure	Accepted Procedure
Inspect Gauge calibration		
Inspect PMS Support		
Inspect warning placard posted – warning bleed pressure before disconnecting...		
Inspect piping/valve condition and operation		
Inspect protective cover		
Inspect relief valve for test data		
Inspect overall area preservation		
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Inspect ship has reviewed NAVSEA Wash DC R 130557Z FEB 01 concerning copper piping		
Inspect the ship has established an inspection program IAW NAVSEA message		
Inspect - Conduct a walkthrough of all copper service steam piping to check for leaks IAW NAVSEA message		

5311	WATER PRODUCTION DEMONSTRATION – FLASH TYPE EVAPS	
Component/Sub-Component	Proposed Procedure	Accepted Procedure
Inspect PMS and Tech Manual support		
Inspect gauge calibration		
Test flow meter		
Inspect evaporator shell (sight glasses, diffuser cap and scale buildup)		
Test salinity dump valves		
Test interlock device between potable water and feed water valves		
Inspect feed pump (labeled, packing gland, foundation, seal / gland cavity)		
Inspect brine pump (labeled, packing gland, foundation, seal / gland cavity)		
Inspect distillate pump (labeled, packing gland, foundation, seal / gland cavity)		
Inspect brine pump (labeled, packing gland, foundation, seal / gland cavity)		
Inspect heater drain pump (labeled, packing gland, foundation, seal / gland cavity)		
Inspect flexible hose condition and test tag		
Inspect feedwater strainer (foundation and basket)		
Inspect pipe labeling and lagging condition		
Test - Demonstrate 80% water production capability during the 4 Hour Water Production Demonstration		

8543	DUMBWAITER	
Component/Sub-Component	Proposed Procedure	Accepted Procedure
Inspect Tech Manual and EOSS Support		
Inspect PMS Support		
Inspect posted operating/safety instructions at each station		
Inspect posted lubrication chart at top station		
Inspect trunk bi-parting doors		
Inspect machinery access cover bolts & nuts		
Inspect machinery oil level		
Inspect hoist machinery mounting hardware		
Inspect hoist drum		
Inspect hoist wire rope and end fittings		
Test slack rope device and limit switch		
Test the hoist brake		
Test the up over travel limit switch		
Test the up deck level limit switch		
Test trunk bi-parting door limit switch		
Inspect car broken rope device		
Inspect car bi-parting door assembly		
Inspect car for missing components		
Test lower level trunk bi-parting doors and limit switch		
Test down over travel limit switch		
Test down level limit switch		
Inspect trunk buffer springs		
Test E-call and sound powered phone system when installed		
Inspect clean out cover mounting hardware		
Inspect motor controller for loose leads, posted placards, grounds and correct fuses		
Inspect dumbwaiter trunk for preservation and cleanliness		
Inspect guide rails		
Test each control station E-stop button		

8543	PACKAGE CONVEYOR	
Component/Sub-Component	Proposed Procedure	Accepted Procedure
Inspect Tech Manual and EOSS Support		
Inspect PMS Support		
Inspect posted operating/safety instructions (two man rule/ do not ride) at each station		
Inspect posted lubrication chart at top station		
Test for audible warning when starting conveyor		
Inspect that all station doors are locked		
Inspect that all station controllers are locked		
Test door interlock system		
Inspect load/unloader at each station		
Test door cannot close when loader/unloader is in horizontal or 30 deg inclined position		
Test loader/unloader down interlock switch at each station below upper most level		
Test jam limit switch at each station		
Inspect safety shields are properly installed		
Test up-over travel switch/device operation		
Test clean out door interlock switch if applicable		
Test down overtravel device and switch		
Test indexing feature		
Test E-stop and run/stop buttons at all stations		
Inspect proper florescent lighting at each station		
Inspect trunk shielding and mounting hardware		
Inspect trunk guide rails		
Inspect conveyor trunk for preservation/cleanliness		
Inspect all carrier trays are installed and tight		
Test all station growlers and phone circuits are functional and headsets are present		
Inspect conveyor has been load tested within the last five years to include weight test data		
Inspect speed reducer is filled to proper level with oil		
Inspect drive, driven and carrier chains are properly tensioned		
Test bite panel for correct components and proper operation		
Inspect motor controller for loose leads, posted placards, grounds and correct fuses		
Inspect drive machinery for missing/loose components		

5161	REFRIGERATION PLANTS	
Components/Sub-Components	Proposed Procedure	Accepted Procedure
Inspect EPA certifications		
Inspect Tech Manual and EOSS Support		
Inspect PMS Support		
Inspect Gauge Calibration		
Inspect operating/safety instructions are posted		
Inspect compressor oil level and oil samples		
Inspect warning at entrance (Freon usage) posted		
Inspect Refrigerant logs		
<b>Test halocarbon monitor operation</b>		
Test capacity control system operation (vent plug)		
Test calibration of alarm / shutdowns		
a. HP / LP pressure switches		
b. Sea water flow / pressure switch		
Test compressor operation (parameters, suction/discharge valves)		
Inspect for piping suppressors		
Inspect for leaks (oil/freon/sea water)		
Inspect refrigerant recovery system/vacuum pumps		
Inspect sea water system (pump operation, zincs, nylon tube inserts, and condenser header)		
Test chill/freezer boxes for fan operation, lighting, coil condition and curtains		
Inspect ventilation (flow/location/indicators and alarms		

<b>6641</b>	<b>FAN ROOMS</b>	
Component/Sub-Component	Proposed Procedure	Accepted Procedure
Inspect deck condition		
- No standing water		
- Deck rusted / exfoliated		
- Deck drain not installed		
- Deck drain missing, not secured within deck socket or inoperative		
Inspect deck/bulkheads have no painted over rust		
Inspect lighting is operative and covers installed		
Inspect adequate lighting present in space		
Inspect vent duct condition		
- Access covers present		
- Access cover fasteners not rusted/missing		
- Duct interior is clean		
Inspect correct vent/piping system labeling		
Inspect fan motor installed correctly (flow)		
Inspect filters are clean and can be easily removed		
Inspect filter DP gauge is operative		
Inspect vent heating element is operative and not deteriorated		
Inspect cooling coils are clean		
Inspect thermostatic controls are calibrated, connected and operational		
Inspect the cooling coil drain is piped to the deck drain and is not clogged		
Inspect the proper color coding of piping		
Inspect that all hand wheels are present		
Inspect for damaged / missing lagging		
Test the C/W or steam solenoids are operational		
Inspect for chilled water / steam leaks		
Inspect for bull's eye and CCOL in space		
Inspect for any unauthorized stowed material		
Inspect for any unauthorized flammables		
Inspect the filter cleaning shop		

<b>5331</b>	<b>POTABLE WATER PUMPS</b>	
Component/Sub-Component	Proposed Procedure	Accepted Procedure
Inspect Tech Manual and EOSS Support		
Inspect PMS Support		
Inspect Gauge Calibration		
Inspect Transducer Calibration		
Inspect Coupling Guard		
Test local start/stop functions		
Inspect pump operation/design discharge pressure, unusual noise, bearing temps, etc.		
Inspect packing and mechanical seal leakage		
Inspect for ferrous fasteners		
Inspect foundation and resilient mounts		
Inspect all flex hoses are properly tested/labeled		
Inspect grounding straps		

<b>5532 / 5533</b>	<b>O2N2 COMPRESSORS</b>	
Component/Sub-Component	Proposed Procedure	Accepted Procedure
Test the operation of ventilation alarms in the O2N2 spaces and DC Central.		
Test emergency shutdown switches for air compressors.		
Test the deluge shower.		
Review Aviators Breathing Logs for contamination of storage tanks and producers.		
Inspect control valve position indicators on the cold box.		
Inspect double-wall piping.		
Inspect producer cold box for leaks.		
Inspect all relief valves testing within periodicity.		
Test the operation of the electronic bulk purity analyzer.		
Inspect gage calibration.		
Test the operation of the Orsat purity analyzer.		
Inspect liquid oxygen transfer hoses.		
Test the operation of the back-pressure regulating valve on the storage tanks.		
Test vacuum in the annular space of the storage tank.		
Perform vacuum pump dead end test.		
Inspect storage flasks are stamped with current test		

dates.	
Test operation of all reducing manifolds.	
Test operation of nitrogen automatic stop valves (hanger bay and flight deck).	
Inspect O2 charging stations.	
Test fwd and aft plants in both oxygen and nitrogen production.	
Inspect production rates for O2 and N2 production.	
Inspect operational parameters during O2N2 production.	
Test purge flowmeter.	
Test reactivation heaters.	
Test product purity in each production.	
Test liquid oxygen/liquid nitrogen cryogenic pumps.	
Test liquid oxygen/liquid nitrogen vaporizers.	
Inspect gaseous oxygen and nitrogen hoses.	
Inspect cryogenic transfer safety equipment (i.e. white coveralls, etc.)	
Test the low temperature alarm for storage tanks during O2N2 charging.	
Test operation of the R-22 refrigeration unit. (HP plants only)	
Inspect operational parameters of R-22 unit. (HP Plant only)	
Test for air and non-condesable gases. (HP Plant only)	
Test water regulating valve. (HP Plant only)	
Inspect refrigeration logs. (HP Plant only)	
Inspect the HPAC's IAW the attached INSURV HPAC checklist, as applicable.	
Inspect the LPAC's IAW the attached INSURV LPAC checklist, as applicable	
Test operation of the programmable logic control (PLC) panel (LP Plant only)	
Test compressor surge point.	
Test auxiliary lube oil pump.	
Test operation of blow off valve and suction throttle valve.	
Test operation of the condensate drain valves.	
Test the vent fog precipitator.	

6651	BFIMA WORKSHOPS	
Component/Sub-Component	Proposed Procedure	Accepted Procedure
Inspect BFIMA matrix and determine the required capabilities for the ship		
Inspect the following items as they pertain to the applicable workshops:		
- PMS and Tech Manual Support of all installed equipment		
- Test operational condition of all installed equipment (E-stops, cutting fluid etc).		
- Test all installed equipment in their capacity		
- Inspect the monorail layout and ensure it supports the function of the workshop		
- Inspect all gauge calibration (calipers)		
- Inspect correct software/hardware present		
- Inspect correct/adequate cutting fluids and oils are present		
- Shops		
- Machine Shop		
- Welding Shop		
- Filter Cleaning Shop		
- Engraving Shop		
- Sheet Metal Shop		
- Motor Rewind Shop		
- Carpenter Shop		
- Valve Shop		
- Internal Combustion Engine Shop		
- Pipe Shop		
- Hydraulic Shop		
- Shipfitting Shop		
- AC&R Shop		
- Pump Shop		

**ELECTRICAL (EL)**  
**PRE-UNDERWAY PHASE**  
**AS-39**

	<b>SHIPS SERVICE DIESEL GENERATORS</b>	
<b>COMPONENT/SYSTEM</b>	<b>PROPOSED PROCEDURE</b>	<b>ACCEPTED PROCEDURE</b>
Test Dead Bus Pick-Up		
Test Reverse Power Relays		
Test Parallel Operation		
Test Auto Start/Verify Loading		
	<b>400 HERTZ DISTRIBUTION SYSTEM</b>	
<b>COMPONENT/SYSTEM</b>	<b>PROPOSED PROCEDURE</b>	<b>ACCEPTED PROCEDURE</b>
Test Split and Parallel Operation		
	<b>TELL-TALE PANEL/NAVIGATION SIGNAL LIGHT PANEL</b>	
<b>COMPONENT/SYSTEM</b>	<b>PROPOSED PROCEDURE</b>	<b>ACCEPTED PROCEDURE</b>
Test navigational lighting panel.		
Test signal light panel.		
Measure insulation resistance of electrical circuits		
	<b>ANNOUNCING SYSTEMS</b>	
<b>COMPONENT/SYSTEM</b>	<b>PROPOSED PROCEDURE</b>	<b>ACCEPTED PROCEDURE</b>
Test General, Chemical, and Collision Alarms from all stations		

Test 1MC from all stations		
Test 5MC Operation		
Test 6/21MC Operation		
	<b>DEGAUSSING SYSTEM</b>	
<b>COMPONENT/SYSTEM</b>	<b>PROPOSED PROCEDURE</b>	<b>ACCEPTED PROCEDURE</b>
Conduct Linearity Test		
Conduct on line ground test.		
Inspect Degaussing Folder		
	<b>AUTOMATIC BUS TRANSFER EQUIPMENT</b>	
<b>COMPONENT/SYSTEM</b>	<b>PROPOSED PROCEDURE</b>	<b>ACCEPTED PROCEDURE</b>
Test All Main And Auxiliary Space Vital Power And Lighting ABT's		
	<b>EVAPORATORS</b>	
<b>COMPONENT/SYSTEM</b>	<b>PROPOSED PROCEDURE</b>	<b>ACCEPTED PROCEDURE</b>
Test dump valve operation		
Test alarm settings		
	<b>WIND INDICATING SYSTEM</b>	
<b>COMPONENT/SYSTEM</b>	<b>PROPOSED PROCEDURE</b>	<b>ACCEPTED PROCEDURE</b>
Test System For Proper Operation		

	THERMAL IMAGING SURVEY	
COMPONENT/SYSTEM	PROPOSED PROCEDURE	ACCEPTED PROCEDURE
Commence Thermal Imaging Throughout The Ship  <b>NOTE:</b> Engineering Vital Equipment For Getting Underway will be surveyed First. Any Controller, Distribution Fuse Box, Power Panel and ABT surveyed above Ambient Temperature of 40 degrees Centigrade And Above Must Be repaired Prior To Getting Underway.		

## ELECTRICAL (EL) UNDERWAY PHASE

**NOTE:** Electrical Underway Checks Consist Mainly Of Space Walk-Through Throughout The Ship.

In each space inspect the following if applicable:

### (INSPECT) FUSE BOXES

COMPONENT/SYSTEM	PROPOSED PROCEDURE
Are fuses pulled from designated circuits without danger tags affixed?	NSTM 300 - 2.4.1
Are there loose or missing locking nuts or gear adrift?	NSTM 300 – 4.8.1
Are circuits properly labeled for easy identification?	GSO 305E
Are there any bent, twisted, misaligned, or broken fuse clips?	NSTM 300 4.8.1
Is the interior rusty or dirty?	NSTM 300 – 4.8.1/5.2.4
Are fuses of the correct amperage and voltage installed?	GSO 303F NSTM 320 – 1.7.4
Are circuits fed from one set of fuses (except battle lantern circuits) multiple?	GSO 331C
Are fuse clips phosphor-bronze instead of silver plated?	NSTM 300 – 4.8.1.2
Were door hinges broken?	5100.19 SERIES NSTM 300
Are non-silver ferruled fuses installed?	NSTM 300 - 2.5.4
Are circuits over fused?	NSTM 300 – 2.5.4
Is clearance provided to permit complete accessibility for maintenance, repair, renewal of fuses, and testing?	GSO 300D

### (INSPECT) BATTLE LANTERNS

COMPONENT/SYSTEM	PROPOSED PROCEDURE
Were relay-operated lanterns installed in sufficient number?	NSTM 330 – 1.6.4.3.3.1
Are lanterns installed with suitable bracket assemblies to prevent removal of lantern?	NAVSEA 0964-000-2000 NSTM 300
Were lanterns inoperative?	NSTM 330 – 3.6.2
Were test switches and relay frames grounded?	NSTM 330 – 2.1.8

### (INSPECT) BATTLE LANTERNS (CON'T)

COMPONENT/SYSTEM	PROPOSED PROCEDURE
Were lanterns located in explosion proof enclosures (prohibit)?	NSTM 330 – 1.6.4.3.2.2
Were NEALS lanterns installed and were they charged (red indicator)?	NSTM 330 – 1.6.4.3.2
Were relay operated lanterns fused?	NSTM 330 – 1.6.4.3.3.3
(INSPECT / TEST) SHORE POWER SYSTEM	
COMPONENT/SYSTEM	PROPOSED PROCEDURE
Is shore power being properly rigged?	NSTM 320-2.2.7
Did shore power shunt trip interlocks trip its associated breakers when tested?	IAW PMS IAW EOSS GSO 320D
Was shore power system cabling between the receptacles and the ship's switchboard insulation resistance within EOSS or PMS Limits	SPRU NSTM 300/320
Were shore power indicating lights operative, white in color, and all screws installed?	NSTM 320 – 2.2.9
Were warning signs posted?	GSO 070H
Was there pigtail stowage installed?	GSO 320D
Does the shore power system meet the current standards: <ul style="list-style-type: none"> <li>- Have a Viking Connector System</li> <li>- Have AQB-LF400 Amp Circuit Breaker with shunt trip</li> <li>- Have a phase sequencing and phase orientation devices.</li> <li>- Have installed ammeter and selector switch to monitor total shore power current.</li> </ul>	GSO 320D

(INSPECT) CATHODIC PROTECTION SYSTEM	
COMPONENT/SYSTEM	PROPOSED PROCEDURE
Was the installed Cathodic Protection System operative and adjusted	GSO 633C
Were the rudder grounding straps made of 1-1/2 inch wide braided copper and brazed to the rudder stock and the hull?	NSTM 633 – 3.3.2.7 GSO 633C
Has the system been turned off greater than 15 days?	GSO 633G
Was brush rigging correctly installed?	NSTM 633- 3.3.2.6
Were shaft grounding brushes correctly installed?	NSTM 633 ICCP Tech Manual
Did shaft grounding brushes exhibit full contact with the slip ring?	NSTM 633 – 3.3.2.6 ICCP TECH MANUAL
(INSPECT / TEST) ALARM SYSTEMS	
COMPONENT/SYSTEM	PROPOSED PROCEDURE
Test alarm switchboards and panels.	4351/Q-2
Were any alarm and warning systems inoperative or missing parts?	GSO 433J
(INSPECT) ORDER/INDICATING/METERING SYSTEMS	
COMPONENT/SYSTEM	PROPOSED PROCEDURE
Were Tank Level Indicators (TLI's) out of calibration or inoperative?	GSO 437 E
Were valve position indicator circuits misadjusted or inoperative?	GSO 430H
Were there missing or inoperative salinity cells?	GSO 531B IAW PMS
MOTOR CONTROLLERS	
COMPONENT/SYSTEM	PROPOSED PROCEDURE
Were interiors dirty, rusty, deteriorated, or contained gear adrift?	NSTM 302-3.3.2 GSO 320F
Were wiring diagrams, schematics or overload heater tables missing?	NSTM 302-3.3.1

MOTOR CONTROLLERS (CON'T)	
COMPONENT/SYSTEM	PROPOSED PROCEDURE
Was controller electrical wiring properly banded?	ELECT PLT. INST. STD METHODS/GSO 302F
Were Start, Stop, "Emergency Run" or Reset buttons seized, missing or inoperative?	3001/S-1/18M-1
Were rubber boots cracked, torn or missing?	NSTM 300-3.2.2 3001/S-1/18M-1
Were overload relay heaters properly sized and adjusted to provide adequate protection for the motor?	NSTM 302-3.3.2 GSO 302G
Were switches protected against inadvertent activation?	GSO 070H
Were controllers with multiple power sources properly labeled?	GSO 305C
Were motor foundations properly preserved?	GSO 631J
Were controllers and remote operating stations properly labeled?	GSO 305C
Is clearance provided to permit complete accessibility for operation, maintenance, repair, renewal of fuses, and testing?	GSO 300D
WORKBENCHES	
COMPONENT/SYSTEM	PROPOSED PROCEDURE
- Does the workbench conform to standards set forth in NSTM 300 APP H? (Insulation, ground straps, disconnect switches, labeling, ground connections, etc)	NSTM 300 GSO 320E GSO 665 GSO 650
(INSPECT) ELECTRICAL SAFETY	
COMPONENT/SYSTEM	PROPOSED PROCEDURE
Were flat irons a high-grade commercial type with a three pronged cord?	NSTM 300-2.7.3.6 GSO 640G

Were Ironing Board Stations in berthing space modified to remove spotlight and fill the access hole? Ensure irons are not hardwired.	GSO 640G
<b>(INSPECT) ELECTRICAL SAFETY (CON'T)</b>	
<b>COMPONENT/SYSTEM</b>	<b>PROPOSED PROCEDURE</b>
Have shorting probes been modified by installing a nylon screw in the end of the probe and soldering the clip to the conductor?	NAVELEX 0101, 110A FIG 1-3 IAW PMS
Are portable tools/devices not stamped "Double Insulated" or equipped with a three pronged cord?	NSTM 300-2.7.3.3 IAW PMS
Were Hospital grade plugs used on portable equipment?	NSTM 300-2.7.3.2.8
Were light fixtures, guards, and covers securely mounted?	NSTM 300-4.3.3
Were over-sized lamps installed in lighting fixtures?	NSTM 330-2.2.4 NSTM 330-2.2.9
Were light fixtures missing lenses, protective guards, or faceplates?	NSTM 330-2.1.4 NSTM 330-2.2.6
Did diesel module room have adequate lighting?	GSO 331B GSO 332E
Were spray-tight fixtures adequately protected against water intrusion?	NAVSEA 0964-000-2000
Was bunk lighting cable hanging, or not routed through the inside of bunk stanchions?	NAVSEA 0964-000-2000
<b>(INSPECT) CABLING</b>	
<b>COMPONENT/SYSTEM</b>	<b>PROPOSED PROCEDURE</b>
Was PVC cabling installed (new construction only)?	GSO 304D
Were dead-ended cables properly identified/terminated?	NSTM 300-4.6.7 GSO 304E NSTM 300-4.6.9 DOD-STD-2003-1
<b>Were useless or improperly installed cables removed?</b>	NSTM 300-4.6.7.1 GSO 304E
Was cabling properly supported, routed or were nylon	GSO 304E

wire ties being utilized?	
<b>(INSPECT) CABLING (CON'T)</b>	
<b>COMPONENT/SYSTEM</b>	<b>PROPOSED PROCEDURE</b>
Were cables pulling out of equipment?	GSO 331E
Were cables improperly spliced?	GSO 304E NSTM 300-4.6.8 DOD-STD-2003-1
Were cables protected against being handholds or being stepped on?	GSO 304E
Was cabling run through beams without the use of chaffing rings?	NSTM 300 TABLE 300-4-4 GSO 304E
Was cabling running through metal partitions equipped with grommets?	GSO 304E NSTM 320-1.6.11
Were cable stuffing tubes properly assembled ?	NSTM 300-4.6.10.1 NSTM 300 TABLE 300-4-4 NSTM 320-1.6.11 GSO 304E
Were multiple cables running through one stuffing tube?	GSO 304E NSTM 300 TAB. 300-4-4
Were multi-cable penetrators installed in Flammable Liquid Storerooms?	GSO 304E MIL-STD-1310
<b>(INSPECT) BUS TRANSFER EQUIPMENT</b>	
<b>COMPONENT/SYSTEM</b>	<b>PROPOSED PROCEDURE</b>
Were ABT's installed for the following: <ul style="list-style-type: none"> <li>- Emergency Lighting.</li> <li>- IC Switchboard and panels.</li> <li>- Steering power panel.</li> <li>- Pumps associated with the main and auxiliary machinery plant having Low Voltage Release (LVR) control.</li> <li>- Fire pumps.</li> <li>- Fire extinguishing auxiliaries and controls.</li> </ul>	NSTM 320-1.3.2 GSO 320D
Did ASCO ABT transfer switches have an electrical charge on the metal screw on the manual operator?	NAVSEA FSC SER 03E2/03E2-234
Was the sliding interlock on manual bus transfer switches effective at preventing both breakers from	NSTM 300-4.8.4.2

being closed at the same time?	
Are feeder circuit breaker megger holes blanked off?	NAVSEA 230319ZNOV 98
Were Normal/Alternate source indicating lights operative?	NSTM 320-2.2.6.4
<b>(INSPECT) SHIP TELEPHONE SYSTEM</b>	
<b>COMPONENT/SYSTEM</b>	<b>PROPOSED PROCEDURE</b>
Was the system unreliable due to unresolved software or hardware deficiencies?	NSTM 430-3 GSO 432
Test battery back-up for telephone system	NSTM 313-2.5 GSO 313J
<b>(INSPECT) MOTORS</b>	
<b>COMPONENT/SYSTEM</b>	<b>PROPOSED PROCEDURE</b>
Were motor foundations properly preserved?	NSTM 300- 5.4.3.10 GSO 631J
Was resilient mounted electrical equipment grounded to the ship's hull through ground straps?	NSTM 300- 2.2.1
Did electrical rotating machinery have ball check grease fittings (zerk fittings) installed?	NSTM 244
Were coupling, belt, or chain guards effective?	GSO 320E
<b>POWER PANELS</b>	
<b>COMPONENT/SYSTEM</b>	<b>PROPOSED PROCEDURE</b>
Do labels specify the proper information?	GSO 305E
Do Breaker ratings match the circuit label current rating?	GSO 305E
Are multi-phase circuits missing breaker connecting handles?	GSO 324C
Were power panels located inside galley spaces?	GSO 320E
Is clearance provided to permit complete accessibility?	GSO 300D
<b>CASUALTY POWER CABLES</b>	
<b>COMPONENT/SYSTEM</b>	<b>PROPOSED PROCEDURE</b>
Were cable ends properly terminated?	GSO 304E NSTM 320-3.4.1 DOD-STD-2003
Were cables deteriorated from age, heat, and	NSTM 079-47.4.2.2.10

humidity?	
Were normally energized power terminals labeled?	NSTM 320-1-2-8-2 GSO 320G
Were racks properly identified as to number/length of cables assigned to the rack?	GSO 305F
<b>CASUALTY POWER CABLES (CON'T)</b>	
<b>COMPONENT/SYSTEM</b>	<b>PROPOSED PROCEDURE</b>
Is there a label attached at the end of the cable to indicate the length and stowage rack number?	GSO 305F DOD-STD-2003
Are cable leads properly identified for phase identification?	NSTM 320-1.2.8.2
Were cable ferrules missing or heavily oxidized?	NSTM 079-47.4.2.2.6
Was an improper number/length of cable installed on a cable rack?	NSTM 079-47.5.6.1 GSO 320G
Were wrenches missing from terminals?	NSTM 079-47.4.2.3.3
Were covers installed on power terminals?	NSTM 079-47.4.2.3.4 NSTM 079-47.4.2.3.6 GSO 320G
<b>ELECTRICAL DISTRIBUTION EQUIPMENT</b>	
<b>COMPONENT/SYSTEM</b>	<b>PROPOSED PROCEDURE</b>
Was electrical distribution equipment securely mounted?	NSTM 300-4.3.3 GSO 300D
Electrical distribution equipment have loose or missing covers?	NSTM 300-4.3.3
Were control knobs or fasteners missing from electrical equipment?	NSTM 300-4.3.3
Was electrical equipment protected from water intrusion?	NSTM 300-4.4.1 NSTM 300-4.4.5
Is electrical properly mounted or was it suspended solely by electrical cables?	NSTM 300-4.3.3
Were 440 multipurpose outlets properly phased?	NSTM 320-1.4.1
Did Standard Navy Receptacles (SNR) and Multi-Purpose Outlets (MPO) have an interlock switch or was the switch function such that the plug	NSTM 320-1.4.1

could not be removed from an energized receptacle?	
Were electrical receptacles broken or damaged?	NSTM 300-2.7.6
Were 400HZ AC, 60HZ AC, and DC convenience outlets labeled to prevent equipment being used with the wrong frequency?	GSO 320
<b>SOUND POWERED TELEPHONE SYSTEMS</b>	
<b>COMPONENT/SYSTEM</b>	<b>PROPOSED PROCEDURE</b>
Were any Sound Powered Circuits below 50,000 ohms resistance to ground?	GSO 432I
Were Sound Powered Call Signal Stations (growlers) inoperative, corroded, damaged or missing parts?	NSTM 430
Were Sound Powered Jackboxes improperly labeled, corroded, damaged, or missing parts?	NSTM 430-3.2
<b>(INSPECT) LIGHTING</b>	
<b>COMPONENT/SYSTEM</b>	<b>PROPOSED PROCEDURE</b>
Were darken ship switches operative and adjusted properly? Ship provide list of darken ship switches for survey.	DOD-HDBK-289 NSTM 330-3.6.5
Were light fixtures, guards, and covers securely mounted?	NSTM 300-4
Were over-sized lamps installed in lighting fixtures?	NSTM 330-2
Were light fixtures missing lenses, protective guards, or faceplates?	NSTM 330-2
Were spray-tight fixtures adequately protected against water intrusion?	NSTM 300-4
Did diesel module room have adequate lighting?	GSO 331B/332E
<b>(INSPECT) BATTERY LOCKERS</b>	
<b>COMPONENT/SYSTEM</b>	<b>PROPOSED PROCEDURE</b>
Was a Battery Log maintained?	NSTM 313-2 GSO 313F
Is there an electrical interlock between exhaust ventilation and battery charger?	5100.19C C0904 NSTM 313
Test ventilation interlocks	3131/S-2
Are Alkaline and Lead Acid Batteries being serviced in the same facility?	5100.19 C0904 GSO F

Is each locker provided with: <ul style="list-style-type: none"> <li>- Rubber Gloves and Aprons.</li> <li>- Goggles.</li> <li>- Two battery fillers.</li> <li>- Two battery test sets.</li> <li>- One soda water container.</li> </ul>	5100.19 GSO 313F NSTM 313
Does the locker contain an eye wash station and a deluge shower?	NSTM 313-2

<b>(INSPECT) BATTERY LOCKERS (CON'T)</b>	
<b>COMPONENT/SYSTEM</b>	<b>PROPOSED PROCEDURE</b>
Are battery storage racks greater than 12 inches between tiers?	GSO 313F
Were battery hold-down clamps provided?	GSO 313F
Are Acids stored in appropriate protective containers?	GSO 313F
Are battery charger plugs and jacks marked NEG. and POS.?	GSO 313F
<b>(INSPECT) MISCELLANEOUS EQUIPMENT</b>	
<b>COMPONENT/SYSTEM</b>	<b>PROPOSED PROCEDURE</b>
Is permanently mounted electrical equipment hardwired to the ships electrical system?	NSTM 330-1
Is hardwired electrical equipment permanently mounted?	NSTM 330-1
Was more than 1 multi-purpose power strip connected to one isolated receptacle circuit?	NSTM 300-2.7
Is electrical equipment mounted on non-conducted surfaces properly grounded?	3000 / A-5
<b>Were Surge Protectors of the approved type?</b>	3000 / A-4R
Are portable electric device power cords properly tinned?	3000 / Q-1R
Are permanent-type safety precautions, operating instructions, high voltage warning signs, and resuscitation instructions installed where required?	NSTM -H.5, I-2
Did electrical connection boxes have knockouts pushed in leaving access holes In the side?	NSTM 300-2.

Are non-watertight connection boxes being used in engineering spaces?	GSO 300D
Was rubber matting oil soaked, cracked, punctured, perforated or had imbedded metal or conductive particles?	GSO 634B

(INSPECT) MISCELLANEOUS EQUIPMENT (CON'T)	
COMPONENT/SYSTEM	PROPOSED PROCEDURE
Did dress ship lights have broken, missing, or incorrect guards?	NSTM 330-1 3000/ R2
Were dress ship light receptacles labeled "Dress Ship Light Streamers. Not to be used for any other purpose"?	NSTM 330-1-
Were panel switches controlling circuits that are de-energized during darkened ship operation marked DARKENED SHIP?	NSTM 330-1
Had the float charge on the UPS batteries been reduced from 135vdc to 129vdc?	IAW PMS
Was UPS electronic cabinet bottom sealed to prevent water or oil entry from lower level engine room?	GSO 300D/324D NSTM 300-4

ELECTRICAL (EL) POST-UNDERWAY  AS 39	
	OPEN AND INSPECT AS REQUIRED BY THE INSPECTION
COMPONENT/SYSTEM	PROPOSED PROCEDURE

# **MAIN PROPULSION PRE-UNDERWAY PHASE AS 39**

2210	PROPULSION BOILERS
Component/Sub-Component	Proposed Procedure
<b>IDLE BOILER:</b>	
Test F/O safety shutoff/root valves	2210/006 (R-5, R-6)
Test F/O Quick Closing Valves	EOP FOS
Inspect burner lead bends and flange shields	NSTM 505
Test final control element air locks	F-26 (A-3R)
Test F/O service tank bulkhead stop valves	LOCAL PROCEDURE
Test F/O service tank Quick Closing valves	LOCAL PROCEDURE
Test steam smothering system	EOP FBAC
Test safety valve hand easing gear	2210/006 (24M-2)
Test remotely close main steam stop valve	5000/005 (A-3)
Test remotely close auxiliary steam stop valve	5000/005 (A-3)
<b>ALL BOILERS:</b>	
Test boiler water high/low level alarms	2210/006 (Q-1R, Q-3R)
Test gauge glass hand easing gear	EOP BGG
Inspect gauge glass normal/emergency lighting	NSTM 221
Inspect bottom blow system material	2210/006 (18M-3R)
Inspect bottom blow valves for leak by	2210/005 (R-4)
Inspect for sliding feet movement	2210/005 (M-1)
Inspect gauges/instruments	CRL/CIL
Inspect Stack Gas Analyzer	NSTM 221
Inspect Periscope	NSTM 221
Inspect smoke pipe expansion joint	NSTM 221
Inspect Boiler Casing and Insulation	NSTM 221
Inspect Sample Coolers	NSTM 220
Inspect drain valve piping	NSTM 221505

2550	MAIN FEED PUMPS
Component/Sub-Component	Proposed Procedure
Test low suction trip and roll over	F-013/089 (Q-1)
Test overspeed trip mechanism	EOP MFPT
Test combination exhaust/relief valve	5000/013 (72M-1R)
Inspect pump packing gland/mechanical seal	NSTM 503
Inspect flange shields	NSTM 505
Inspect relief valves	NSTM 505
Inspect gauges/instruments	CRL/CIL
2550	MAIN BOOSTER PUMPS
Component/Sub-Component	Proposed Procedure
Test low pressure alarm	F-014/023 (S-2)
Inspect gauges	CRL/CIL
Inspect MFBP - motor controller - pump motor - pump packing gland/mechanical seal	NSTM 302 NSTM 503
2511	FORCED DRAFT BLOWERS
Component/Sub-Component	Proposed Procedure
Test low lube oil trip and roll over	F-002/063 (S-3)
Test speed limiting governor	F-002/063 (S-1)
Inspect/Sample lube oil	2000/001 (R-1)
Test damper operation	F-002/063 (18M-1)
Test Combination Exhaust Relief Valve	5000/013 (72M-1R)
Inspect gauges/instruments	CRL/CIL
Inspect flange shields	NSTM 505
2610	FUEL OIL SERVICE PUMPS
Component/Sub-Component	Proposed Procedure
Test remote shut down (cold plant)	F-004/001 (S-4)
Test Combination Exhaust Relief Valve	5000/013 (72M-1R)
Test Speed Limiting Governor	F-004/001 (Q-1, S-3)

Inspect Electric Fuel Oil Service Pump - motor controller - pump motor - packing gland/mechanical seal	NSTM 302 NSTM 503
Inspect gauges	CRL/CIL
Flush revolving basket strainer	F-044/017 (R-5)
Shift duplex strainer	EOP FOS
Inspect discharge relief valve	NSTM 505

2550	DEAERATING FEED TANK
Component/Sub-Component	Proposed Procedure
Test DFT gauge glass hand easing gear	NSTM 255V2
Test D.O.	NSTM 220
Inspect for leaks	NSTM 255V2
Inspect DFT relief valve	NSTM 255V2
Inspect DFT vacuum breaker	NSTM 255V2
Inspect DFT gauge glass	NSTM 255V2
Inspect gauges/instruments	CRL/CIL

2550	EMERGENCY FEED PUMP
Component/Sub-Component	Proposed Procedure
Demonstrate operation and feed boiler successfully for 10 minutes	EOP MFPR
Inspect for steam/water leakage	EOP MFPR
Inspect pump discharge relief valve	NSTM 505
Inspect gauges/instruments	CRL/CIL

2211	BOILER INSPECTION DEVICE
Component/Sub-Component	Proposed Procedure
Test boiler inspection device	2211/002 (M-2R)
Inspect boiler inspection device case	2211/002 (R-3)

	ADMIN/DOCUMENTATION
Component/Sub-Component	Proposed Procedure
BW/FW records (last 3 months)	NSTM 220/221
Bottom blow UT records	NSTM 220/221
Soot blow ppg UT records	NSTM 220/221
Soot blow head UT records	NSTM 220/221

Burner barrel hydrotest records	NSTM 220/221
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2320	MAIN ENGINES
Component/Sub-Component	Proposed Procedure
Test Main Condenser SW Inlet Valve	5000/005 (S-2)
Test Main Condenser SW Outlet Valve	5000/005 (S-2)
Test Scoop Injection SW Inlet Valve	5000/005 (S-2)
Test Main Circ Pump Emerg Bilge Suction Vlv	E-005/021 (S-2)
Test Main Engine Guarding Valve	5000/005 (S-3)
Test Throttle Valves	5000/005 (S-2)
Inspect Turbine Gland Seal Regulating Valve	NSTM 505
Inspect Turbine Gland Seal Dump Valve	NSTM 505
Inspect Turbine Crossover Piping Sentinel Valves	E-700/17 (24M-2)
Test Main Circ Pump Speed Limiting Governor	E-005/021 (Q-4)
Inspect gauges and instruments	CRL/CIL
Inspect Air Ejectors	EOP MEAJ
Inspect Drain systems	EOP MD

2410	REDUCTION GEARS
Component/Sub-Component	Proposed Procedure
Test Shaft Turning Gear and Locking Device	EOP MEJG
Inspect Sump Level and Lube Oil Condition	2000/001 (R-1)
Inspect Gear Teeth, Lube Oil Spray Pattern, Casing Interior	E-700/017 (R-22)
Inspect Attached LO Pump Angle Drive Gear	E-700/017 (24M-6)
Inspect Oil Flow in SFI's	NSTM 241
Inspect Temperature Gauges	CRL/CIL
Inspect Casing Exterior	NSTM 241
Inspect Vent Fog Precipitator	NSTM 241
Inspect Security Devices	NSTM 241
Inspect Piping Systems	NSTM 505
Inspect Flange Shielding	NSTM 505
Dehumidifier	NSTM 241

<b>2990</b>	<b>LINE SHAFT BEARINGS</b>
Component/Sub-Component	Proposed Procedure
Inspect/Sample lube oil	2000/001 (R-1)
Inspect Sump Drain Valve	NSTM 244
Inspect Seals	NSTM 244
Inspect Thermometers	CRL/CIL
Inspect Lubricator	NSTM 244
Inspect Dip Stick	NSTM 244
Inspect Lock Wires	E-700/017 (R-25)
Inspect Bearing Depth Mic Surface	NSTM 244

<b>2430</b>	<b>STERN TUBE SEALS</b>
Component/Sub-Component	Proposed Procedure
<b>Test Cooling Water Low Flow Alarm</b>	<b>EOP STC</b>
<b>Test Inflatable Seal</b>	<b>E-012/026 (S-1, S-3)</b>
Inspect Gauges	CRL/CIL
Inspect Cooling Water Piping	NSTM 505
Inspect/shift Cooling Water Strainer/Filter	EOP STC
Inspect underway seal leakage rate	NSTM 244
Inspect LP Air Supply	E-012/026 (S-1, S-3)
Inspect LP Piping/Hoses/Fittings	E-012/026 (S-1, S-3)
Inspect CO2/N2 Piping/Fitting	E-012/026 (S-1, S-3)
Inspect Emergency Flax Packing Kit	E-012/026 (S-1, S-3)

<b>2500</b>	<b>CONTROLS</b>
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Component/Sub-Component	Proposed Procedure
<b>Test EOT Indicator</b>	<b>EOP MEOT</b>
<b>Test RPM Indicator</b>	<b>EOP MEOT</b>
<b>Test Console Alarms and Indicators</b>	<b>EOP MEOT</b>
<b>Test Wrong Direction Alarm</b>	<b>EOP METT</b>

<b>2620</b>	<b>LUBE OIL SYSTEMS</b>
Component/Sub-Component	Proposed Procedure
<b>Test Main Engine Lube Oil Sequencing</b>	<b>E-010/047 (Q-1)</b>
<b>Test Main Engine Low Lube Oil Alarm</b>	<b>E-010/047 (Q-2)</b>
Inspect Electric Lube Oil Pump - Motor - Flexible coupling - Mechanical Seals - Valves and piping	NSTM 503
Inspect SLOP Lube oil sump level	2000/001 (R-1)
Inspect Steam Lube Oil Pump (SLOP) - Turbine - Pump - Mechanical Seals - Valves and piping	NSTM 503
<b>Test combination/exhaust relief valve</b>	<b>5000/013 (72M-1R)</b>
<b>Test SLOP speed limiting governor</b>	<b>E-009/070 (Q-1, Q-2)</b>
Inspect attached Main Engine Lube Oil Pump - Coupling - Mechanical Seals	NSTM 503
Inspect Lube Oil Strainer Baskets and enclosure	EOP LODS
Inspect Flexible hose assemblies	5000/014 (A-1, A-2)
Inspect system flange shields	NSTM 505
Inspect lube oil pump relief valves/test data tag	NSTM 505
Inspect gauges and instruments	CRL/CIL
Inspect Temp Regulating Valve	NSTM 505
Inspect Unloading Valve	NSTM 505
<b>Demonstrate Lube Oil Purifier Operation</b>	<b>EOP LOPO</b>
Inspect Lube Oil Purifier Heater relief valve/test data tag	NSTM 505
<b>Demonstrate Lube Oil Purifier Efficiency</b>	<b>NSTM 262</b>

<b>1130</b>	<b>HULL STRUCTURE</b>
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Component/Sub-Component	Proposed Procedure
Inspect Bilges/Angle Irons	NSTM 100
Inspect Deck Plates	NSTM 100
Inspect Equipment Foundations and resilient mounts	NSTM 100
Inspect Paint and Preservation	6300/001 (S-1)
Inspect Pipe Brackets/Hangers	A-700/038 (18M-1R)
Inspect Lighting	NSTM 303

3110	GENERATORS
Component/Sub-Component	Proposed Procedure
Inspect Lube Oil Condition/ Sump Level	2000/001 (R-1,2)
Inspect Lube Oil SFIs	NSTM 241-2.3.8; 244-3.3.6
Inspect Vent Fog Precipitator	NSTM 241-3.2.6
Inspect/Shift Lube Oil Strainer	EOP LOSTG
Airbox Telltale Drains	NSTM 310
<b>Test Alarm Panel</b>	<b>EOP TG</b>
Inspect Gland Seal Operation	EOP TG
Inspect Aux Circ Pump <ul style="list-style-type: none"> <li>- Motor</li> <li>- Controller</li> <li>- Packing gland/mechanical seal</li> </ul>	EOP TG
Inspect Aux Cond Pump <ul style="list-style-type: none"> <li>- Motor</li> <li>- Controller</li> <li>- Packing gland/mechanical seal</li> </ul>	EOP TG
Inspect Aux Air Ejectors	EOP TG
<b>Test Lube Oil Pump Autostart</b>	<b>EOP TG</b>
<b>Test Low Lube Oil Alarm</b>	<b>E-013/124 (S-3)</b>
Inspect Turbine Casing Relief Valve	NSTM 505
<b>Test Overspeed Trip</b>	<b>E-013/124 (Q-1, Q-2)</b>
<b>Test Manual Trip</b>	<b>EOP TG</b>
<b>Test Back Pressure Trip</b>	<b>E-013/124 (A-10, A-11)</b>

<b>Test Auxiliary Condenser SW Inlet Valve</b>	<b>5000/005 (S-2)</b>
<b>Test Auxiliary Condenser SW Outlet Valve</b>	<b>5000/005 (S-2)</b>
Inspect centrafilter	EOP TG
Inspect flange shields	NSTM 505
Inspect duplex oil filter(GOV)	EOP TG
Inspect Aux Condenser sight glass	EOP TG

	ICAS
Component/Sub-Component	Proposed Procedure Accepted Procedure
Verify operational status of each workstation	ICAS Tech Manual
Verify number of required portable data terminals (PDT) and that they are operational	ICAS Tech Manual
Verify number of required portable diagnostic aids (PDA) and that they are operational	ICAS Tech Manual
Are any critical system errors shown in the system log?	ICAS Tech Manual
Ensure data for at least two routes from actual rounds	ICAS Tech Manual
Ensure data from Data Acquisition devices is being received as required	ICAS Tech Manual
Verify Demand Data is received and processed accurately	ICAS Tech Manual
Verify database data is received and processed accurately	ICAS Tech Manual
Ensure router connections are operating properly	ICAS Tech Manual
Ensure remote demand data and database data are available to be viewed.	ICAS Tech Manual
Verify all required system links are available	ICAS Tech Manual
Verify all ICAS printers are operational	ICAS Tech Manual
Verify picture book is available for vibration checks	ICAS Tech Manual
Verify vibration data is being taken per PMS	ICAS Tech Manual
Verify vibration disc are installed on all equipment	ICAS Tech Manual
Conduct vibration surveys on selected equipment during the full power demonstration	ICAS Tech Manual
Inspect all cabinet air filters	MIP 2020 (M-3)
Inspect all ICAS computer equipment	MIP 2020 (A-1R)

Inspect computer internal shocks and fans	MIP 2020 (M-3)
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<b>Demonstrate Quick Reversal Ahead</b>	<b>POG/Full Power Memo/EOSS</b>
<b>Demonstrate soot blower operation as soon as possible after underway. Note: Demonstrate soot blower head pressure PMS on one rotating and one stationary head per boiler while blowing tubes.</b>	<b>2210 (60M-1)</b>

<b>MAIN PROPULSION UNDERWAY PHASE AS 39</b>	
<b>TEAM ARRIVAL</b>	
<b>Component/Sub-Component</b>	<b>Proposed Procedure</b>
Check applicable equipment for correction of deficiencies.	
Tour space, ensure ready for sea.	
<b>MISCELLANEOUS</b>	
<b>Component/Sub-Component</b>	
Inspect Oil Lab, sampling equipment	NSTM 220
Complete Open and Inspect List and give a copy to the Engineer Officer.	
<b>CHELANT TREATMENT SYSTEM</b>	
<b>Component/Sub-Component</b>	<b>Accepted Procedure</b>
Inspect Spill Locker and inventory	NSTM 220
Inspect hydrazine locker	NSTM 220
Inspect injection cabinet	NSTM 220
Inspect chelant treatment tank and associated equipment	NSTM 220
Inspect eyewash station	6600/002 (Q-8)
<b>DEMONSTRATIONS</b>	
<b>Component/Sub-Component</b>	<b>Proposed Procedure</b>
<b>Demonstrate Full Power ahead (1 hour)</b>	<b>PMS/EOSS/POG/9094.1B</b>
<b>Demonstrate Quick Reversal Astern</b>	<b>POG/Full Power Memo/EOSS</b>